

REMARKS/ARGUMENTS

Claims 1-46 are pending in the application and presented for examination.

In response to the restriction requirement, Applicants hereby elect Group I, drawn to a polymerase-nucleic acid complex, with traverse. Claims 1-28 are readable thereon.

According to the MPEP, where claims can be examined together without undue burden, the Examiner must examine the claims on the merits even though they are directed to independent and distinct inventions. See, the MPEP at 803.01. In establishing that an "undue burden" would exist for co-examination of claims, the Examiner must show that examination of the claims would involve substantially different prior art searches, making the co-examination burdensome. To show undue burden resulting from searching difficulties, the Examiner must show that the restricted groups have a separate classification, acquired a separate status in the art, or that searching would require different fields of search (MPEP at § 808.02). Applicant believes that no undue burden exists in the present case. Furthermore, once the product claims are found allowable, commensurate process claims must be rejoined as a matter of right (MPEP § 821.04). As such, Applicant respectfully request that the Examiner maintain the present claims and examine them on the merits.

Applicant strenuously traverses the multiple election of species as clearly being improper. The Examiner has required a "species election" for almost each claim and in fact, multiple species of each claim. Claims are definitions of inventions. Claims are never species. In this regard, the Examiner is respectfully directed to MPEP § 806.04(e). Moreover, it is Applicant's understanding that the 41 species election is for search purposes only. Notwithstanding the strenuous traversal of the species election, the following is Applicant's elections.

I. ALLEGED SPECIES OF THE ATTACHMENT COMPLEX:

A) attachment complex comprises at least two anchors (claim 3):

As set forth in FIG. 2, wherein the anchors (203, 205) are identical amino acid sequences as set forth in paragraph 50, line 21.

B) attachment complex comprises at least two anchors and is attached to a solid support (claim 4):

As set forth in FIG. 2, wherein the anchors (203, 205) are identical amino acid sequences as set forth in paragraph 50, line 21, with glass as a solid support.

C) attachment complex comprises a topological tether (claim 5):

As shown in FIG. 1C (148).

D) attachment complex comprises at least two anchors and a topological tether (claim 6):

As shown in FIG. 1C; and described in paragraph 42, line 23.

E) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair (claim 7):

As shown in FIG. 1 and wherein the complementary pair are for example, biotin and streptavidin.

F) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least two anchor via at least two complementary binding pairs (claim 8):

As shown in FIG. 1 and wherein the first complementary pair are for example, biotin and streptavidin and the second is biotin and streptavidin.

G) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is a haptenic compound in combination with an antibody (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

H) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is an haptenic compound in combination with a binding portion (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

I) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the

complementary binding pair is a haptenic compound in combination with an antibody fragment (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

J) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is an antigenic compound in combination with an antibody (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

K) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is an antigenic compound in combination with an antibody binding portion (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

L) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is an antigenic compound in combination with an antibody fragment (claim 9, in part):

As shown in FIG. 1 and digoxigenin and antidioxigenin.

M) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is a non-immunological binding pair (claim 9, in part):

As shown in FIG. 1 and histidine patch and metal (see paragraph 47).

N) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is receptor-receptor agonist (claim 9, in part):

As shown in FIG. 1, and page 8, line 30.

O) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is receptor-receptor antagonist (claim 9, in part):

As shown in FIG. 1 and page 8, line 31.

P) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is IgG-protein A (claim 9, in part):

As shown in FIG. 1 and IgG-protein A.

Q) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is lectin-carbohydrate (claim 9, in part):

As shown in FIG. 1 and lectin-carbohydrate.

R) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is enzyme-enzyme cofactor (claim 9, in part):

As shown in FIG. 1 and page 8, line 32.

S) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is enzyme-enzyme inhibitor (claim 9, in part):

As shown in FIG. 1 and page 8, line 32.

T) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is polynucleotide pair capable of forming nucleic acid duplex (claim 9, in part):

As shown in FIG. 1 and page 8, line 33.

U) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is digoxigenin and anti-digoxigenin (claim 10, in part):

As shown in FIG. 1 and page 8, line 33.

V) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is fluorescein and anti-fluorescein (claim 10, in part):

As shown in FIG. 1 and page 8, line 34.

W) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is dinitrophenol and anti-dinitrophenol (claim 10, in part):

As shown in FIG. 1 and page 8, line 34.

X) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is bromodeoxyuridine and anti-bromodeoxyuridine (claim 10, in part):

As shown in FIG. 1 and page 9, line 1.

Y) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is mouse immunoglobulin and goat anti-mouse immunoglobulin (claim 10, in part):

As shown in FIG. 1 and page 9, lines 1-2.

Z) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is biotin-avidin (claim 10, in part):

As shown in FIG. 1 and page 9, line 2.

AA) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is biotin-streptavidin (claim 10, in part):

As shown in FIG. 1 and page 9, line 2.

AB) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is thyroxine and cortisol (claim 10, in part):

As shown in FIG. 1 and page 9, line 2.

AC) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the

complementary binding pair is a phenylalanine derivative and hydrazine linker (claim 10, in part):

As shown in FIG. 2 and paragraph 51.

AD) attachment complex comprises at least two anchors and a topological tether, and the topological tether is attached to at least one anchor via a complementary binding pair, and the complementary binding pair is acetylcholine acetylcholine receptor (claim 10, in part):

As set forth in FIG. 1, wherein the binding pair is acetylcholine and an acetylcholine receptor.

AE) at least one anchor comprises at least one amino acid for attachment (claim 11, in part):

As set forth in FIG. 1, with histidine (see, page 8, line 10).

AF) at least one anchor comprises at least one epitope for attachment (claim 11, in part):

As set forth in FIG. 1, and a histidine tag (see, page 8, line 13).

AG) at least one anchor comprises at least one amino acid for attachment and the amino acid is cysteine (claim 12, in part):

As set forth in FIG. 1 (see, page 8, line 10).

AH) at least one anchor comprises at least one amino acid for attachment and the amino acid is a phenylalanine derivative (claim 12, in part):

As set forth in FIG. 1 and paragraphs 14 and 51.

AI) at least one anchor comprises at least one amino acid for attachment and the amino acid is a histidine tag (claim 12 and 13, in part):

As set forth in FIG. 1, with histidine tag (see, paragraph 14).

AI) at least one anchor comprises at least one amino acid for attachment and the amino acid is a histidine patch (claim 12 and 13, in part):

As set forth in FIG. 1, with histidine tag (see, paragraph 14).

AK) at least one anchor comprises at least one amino acid for attachment and the amino acid is a polyhistidine sequence (claim 12 and 13, in part):

As set forth in FIG. 1 and paragraph 14.

AL) attachment complex comprises a topological tether and the tether comprises an antibody (claim 14):

As set forth in FIG. 1, with IgG.

AM) at least one anchor is attached to a solid support (claim 15):

As set forth in FIG. 2, wherein at least one anchor is the amino acid sequence as set forth in paragraph 50, line 21.

AN) at least one anchor entraps target nucleic acid (claim 16):

As set forth in FIG. 1A.

AO) attachment complex comprises at least two anchors and a topological tether, wherein said topological tether is an antibody and said at least two anchors are each a histidine tag (claim 17):

As set forth in FIG. 1C; wherein the topological tether is an anti-histidine tag antibody.

II. SPECIES OF POLYMERASES

AP) the polymerase is selected from family A polymerase (claim 20, in part):

Taq polymerase

AQ) the polymerase is selected from family B polymerase (claim 20, in part):

RB-69 polymerase.

AR) the polymerase is selected from family A polymerase and is a Klenow polymerase (claim 21, in part):

Klenow polymerase

AS) the polymerase is selected from family A polymerase and is a Taq polymerase (claim 21, in part):

Taq polymerase

AT) the polymerase is selected from family A polymerase and is a T7 polymerase (claim 21, in part):

T7 polymerase

AU) the polymerase is selected from family B polymerase and is a terminator polymerase (claim 22, in part):

Terminator.

A W) the polymerase is selected from family B polymerase and is a phi29 polymerase (claim 22, in part):

phi29 polymerase.

AX) the polymerase is selected from family B polymerase and is a RB-69 polymerase (claim 22, in part):

RB-69 polymerase.

AY) the polymerase is selected from family B polymerase and is a T4 polymerase (claim 22, in part).

T4 polymerase.

III. ALLEGED SPECIES OF POLYMERASE COMPLEXES

AZ) the polymerase-nucleic acid complex is an array of polymerase-nucleic acid complexes attached to a support (claim 23):

as shown in FIG. 6.

BA) the polymerase-nucleic acid complex is an array of polymerase-nucleic acid complexes attached randomly to a support (claim 24):

as shown in FIG. 6.

BB) the polymerase-nucleic acid complex is an array of polymerase-nucleic acid complexes attached uniformly to a support (claim 25):

as shown in FIG. 8.

IV. ALLEGED SPECIES OF PROCESSIVITY INDEX

BC) the processivity index is at least 0.5 (claim 26):

a 9° North DNA polymerase; as discussed in paragraph 38.

BD) the processivity index is at least 0.8 (claim 27):

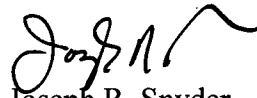
a 9° North DNA polymerase; as discussed in paragraph 38.

BE) the processivity index is 1 (claim 28):
a 9° North DNA polymerase; as discussed in paragraph 38.

CONCLUSION

In view of the foregoing, Applicant respectfully requests early action on the merits. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,


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